



Hydrometrics, Inc.®
consulting scientists, engineers, and contractors

ADMINISTRATIVE RECORD

ENVIRONMENTAL
PROTECTION AGENCY

JUN 9 2000

MONTANA OFFICE

2727 Airport Road
Helena, MT 59601
(406) 443-4150
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www.hydrometrics.com

June 8, 2000

1195961 - R8 SDMS

Mr. Scott Brown
U.S. Environmental Protection Agency
Region VIII, Montana Operations Office
Federal Building - Drawer 10096
301 South Park
Helena, MT 59626-0026

Re: Start of Year 2000 Residential Soils Removal Action in East Helena, Montana

Dear Mr. Brown:

Hydrometrics is planning on initiating the 2000 removal season the week of June 12th, with crews starting at 409 Lewis Avenue. With the current work scope of four properties to be remediated, we anticipate activities to progress over the next six to eight weeks. We will continue to work closely with the County's Lead Office, ASARCO, Inc., and Deanne Fisher on new property information and sampling efforts to determine if the work scope may change.

The topsoil source that Hydrometrics plans on using this year is from J. Merritt whose topsoil source is located along Merritt Road off the northern end of Lake Helena Drive. Two 3-spot composite topsoil samples (JMTS-2 and JMTS-3) were collected in-situ from 0-6" for XRF analysis. Mr. Merritt then stripped and stockpiled the topsoil. Another topsoil sample was collected from the stockpile (JMTS-4) for additional chemical and physical information. The soil is a sandy clay loam with a dark brown appearance. The SAR is 1.3 and the conductivity is 1.56 mmhos/cm. Both of the measurements were well within specification, as were other criteria, with the exception of lead. The XRF lead concentrations for the topsoil samples measured 59 ppm and 61 ppm, and are slightly over the performance specification of 50 ppm. In light of the difficulty Hydrometrics had last year in finding a commercially available local topsoil source that could meet lead criteria, we ask you to consider accepting the Merritt topsoil source as suitable for the 2000 removal season.

4070200

Analytical data for this topsoil material as well as roadmix and sod proposed for the 2000 season are enclosed. The XRF lead analysis for Big Sky pitrun material to be used for roadmix measured 28 ppm. Our sod source for this year is a local supplier, Grass-Land Sod and Hydro-Seeding. Their sod material (GRSLND-3) measured 57 ppm lead by XRF.



465253

Mr. Scott Brown
June 8, 2000
Page 2

If you have any questions or comments, please call me at 443-4150, ext. 183, or Garth Block at ext. 171.

Sincerely,

A handwritten signature in black ink, appearing to read "Alan Erickson". The signature is fluid and cursive, with the first name "Alan" and last name "Erickson" clearly distinguishable.

Alan K. Erickson, P.E.
Project Manager

Enclosure

c: Jay Spickelmier
Doug Dollhopf, MSU-RRU

2000 EAST HELENA XRF SOILS ANALYSES

SECTOR	SAMPLE NUMBER (1)	LAB NUMBER	SAMPLE DATE	SAMPLE TIME	DEPTH in. (2)	SAMPLE TYPE (3)	ANALYSIS DATE	Pb (ppm)	As (ppm)	Cd (ppm)	U95 Pb	Pb FIELD REPLICATE (RPD) (5)
											VALUE (4) (ppm)	
COMMENTS												

SITE CODE: JMTS

Jay Merritt Topsoil

BACKFILL SOIL CONCENTRATIONS

02	BKF-JMTS-2	00R-04818	05/02/2000	1625	0-6	BKF	05/09/2000	59	< 10	< 10	133
03	BKF-JMTS-3	00R-04819	05/02/2000	1640	0-6	BKF	05/09/2000	61	< 10	< 10	135

Notes: (1) P = Pit Sample; GS = Garden Sample; R = Replicate; GA = Garage Sample; TR = Tree Roots.

(2) Depth at which samples were taken. For PST samples the excavation depth was used; * = Final Excavation Depth.

(3) PRS = Pre Removal Sample; PST = Post Removal Sample; DK = Direct Haul Sample; CM = Continuous Monitoring Sample; NON = Nondisturbed sampling area; DIS-
urbed sampling area; (4) Upper 95% Confidence Value for lead

(5) Relative Percent Difference; E.P.A. Quality Control Standard - less than 28%.

Site Sector	Code #	depth Inches	date time	Comments
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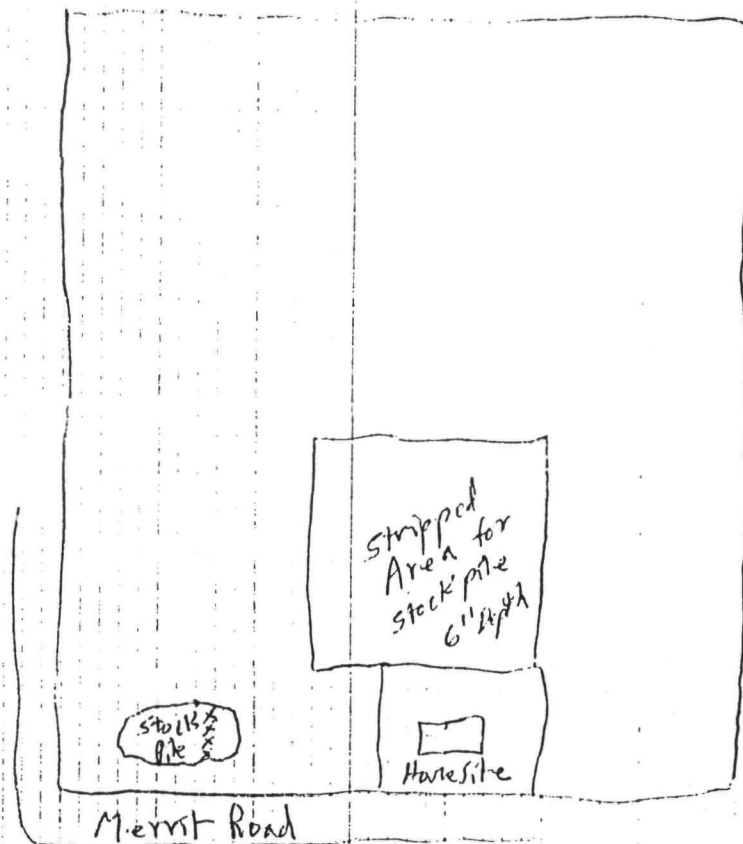
5/11/00	Jay Merritt	Topsoil		
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5/11/00	BKF-JNTS-4	STOCKPILE Grab	9:48	
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* BKF-JNTS-4 - was a sample taken for
a complete soil analysis at Enviro Labs.

Jay Merritt Property

↑
N



**ENERGY LABORATORIES, INC.**P.O. BOX 30916 • 1120 SOUTH 27TH STREET • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489 • E-MAIL eli@energylab.com**LABORATORY REPORT**

Page: 1

To : Hydrometrics, Inc.
Address : Computer Dept.
2727 Airport Rd.
Helena, MT 59601

Lab No. : 00-53729-1 mf
Date : 5/22/00

SOIL ANALYSIS REPORT

East Helena Residential Soils

Proj. # 1020C3 BKF-JMTS-4

Jay Merritt Topsoil

Sample Date : 5/11/00
Sample Time : 0948
Sample Received : 5/12/00

Constituents	Results	Units	Re- marks	Ref.	Method	--Analysis--		By
						Date	Time	
pH, Saturated Paste	7.3	s.u.	(1)			5/16/00	1200	SM
Conductivity	1.56	mmhos/cm	(2)			5/16/00	1200	SM
Nitrate as N	44.1	µg/g	(3)			5/17/00	1200	SM
Phosphorus, Olsen	64.8	µg/g	(4)			5/17/00	1200	SM
Potassium	670	µg/g	(5)			5/15/00	1200	SM
Organic Matter	5.12	%	(6)			5/17/00	1200	SM
Calcium	12.0	meq/l	(2)			5/16/00	1200	SM
Magnesium	5.53	meq/l	(2)			5/16/00	1200	SM
Sodium	3.86	meq/l	(2)			5/16/00	1200	SM
Sodium Adsorption Ratio	1.30		(2)			5/16/00	1200	SM
Saturation	49.8	%	(2)			5/17/00	1200	SM
Sand	58	%	(7)			5/17/00	1200	SM
Silt	20	%	(7)			5/17/00	1200	SM
Clay	22	%	(7)			5/17/00	1200	SM
Texture	SCL		(7)			5/17/00	1200	SM
Coarse Fragments	8		(7)			5/15/00	1200	SM

- (1) Saturated paste extract. ASA Monograph No. 9, Method 10.3.1.
- (2) Saturated paste extract. ASA Monograph No. 9, Method 10.2.3.1 and 10-3.3
- (3) Potassium Chloride extract. ASA Monograph No. 9, Method 33-8.1
- (4) Sodium Bicarbonate extract. ASA Monograph No. 9, Method 24-5.4
- (5) Ammonium Acetate extract. ASA Monograph No. 9, Method 13-3.5
- (6) ASA Monograph No. 9, Method 29-3.5.2
- (7) ASA Monograph No. 9, part 1, Method 15-5

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LABORATORY REPORT

TO: Garth Block
ADDRESS: Hydrometrics
2727 Airport Rd.
Helena, MT 59601

LAB NO.: 001-00-53729
DATE: 05/19/00 mf

SOIL ANALYSIS

East Helena Residential Soils, Proj. #1020C3
Sampled 05/11/00 @ 0948
Submitted 05/12/00

Sample Number	Identification	pH, s.u.	Cond., mmhos/cm	Sat., %	Calcium meq/l	Magnesium meq/l	Sodium meq/l	SAR	Sand %	Silt %	Clay %	Texture
		Sat. Paste	Sat. Paste	Sat. Paste	Sat. Paste	Sat. Paste	Sat. Paste	Sat. Paste				
00-53729-001	BKF-JMTS-4	7.3	1.56	49.8	12.0	5.53	3.86	1.30	58	20	22	SCL

DUPLICATE ANALYSIS

00-53729-001	BKF-JMTS-4	7.3	1.59	48.0	11.6	5.26	3.71	1.28	58	19	23	SCL
CONTROL SOIL	**	6.9	3.09	32.3	21.4	11.6	15.3	3.77	46	31	23	L
TARGET RANGE	**	(6.4-7.1)	(2.85-4.90)	(31.9-37.9)	(16.2-26.8)	(8.71-14.8)	(7.11-19.6)	(1.82-4.64)	(42-54)	(31-41)	(12-24)	N/A
DATE ANALYZED	**	05/16/00	05/16/00	05/17/00	05/16/00	05/16/00	05/16/00	05/16/00	05/17/00	05/17/00	05/17/00	05/17/00

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LABORATORY REPORT

TO: Garth Block
ADDRESS: Hydrometrics
2727 Airport Rd.
Helena, MT 59601

LAB NO.: 001-00-53729
DATE: 05/19/00 mf

SOIL ANALYSIS

East Helena Residential Soils, Proj. #1020C3
Sampled 05/11/00 @ 0948
Submitted 05/12/00

<u>Sample Number</u>	<u>Identification</u>	<u>Coarse Fragments %</u>	<u>Organic Matter %</u>	<u>Nitrate as N Potassium Chloride Extract ug/g</u>	<u>Phosphorus Sodium Bicarbonate Extract ug/g</u>	<u>Potassium Ammonium Acetate Extract ug/g</u>
00-53729-001	BKF-JMTS-4	8	5.12	44.1	64.8	670

DUPLICATE ANALYSIS

00-53729-001	BKF-JMTS-4	N/A	5.50	44.5	66.9	680
CONTROL SOIL	**	N/A	2.76	5.5	8.8	175
TARGET RANGE	**	N/A	(1.77-3.79)	(2.0-5.5)	(6.7-18.4)	(104-194)
DATE ANALYZED	**	05/15/00	05/17/00	05/17/00	05/17/00	05/15/00

Lab No.: 001-00-53729

Date: 12-MAY-00

Received by: Justin McMillan

Logged In by: Justin McMillan

SAMPLE CONDITION QA/QC REPORT

This report provides information about the condition of the sample(s)
and associated sample custody information on receipt at the laboratory.

Chain of Custody Form

Completed & Signed

Yes Comments: _____

Chain of Custody Seal

No Comments: _____

Intact

N/A Comments: _____

Signature Match Chain of Custody vs. Seal

N/A Comments: _____

Samples Received Cold

N/A Comments: Received @ 13 C

Samples Received Within Holding Time

Yes Comments: _____

Samples Received in Proper Containers

Yes Comments: _____

Samples Received Properly Preserved

N/A Comments: _____

Samples requiring analysis for volatile organics are tested for proper preservation at the time of analysis.

Any preservation problems encountered for these samples are noted on the analytical parameter report pages.

Client notified about sample discrepancies:

Who: _____ By: _____ Date/Time: _____

Method of Shipping: UPS Ground

Additional comments: _____



2727 Airport Road • Helena, Montana 59601 • (406) 443-4150

[illegible]

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LABORATORY REPORT

TO: Garth Block
ADDRESS: Hydrometrics
2727 Airport Road
Helena, MT 59601

LAB NO.: 001-00-53729
DATE: 05/19/00 mf

FERTILIZER RECOMMENDATIONS

Fertilizer Suggested in Actual Pounds per Acre

FIELD	BKF-JMTS-4	BKF-JMTS-4
CROP	Dryland Grass	Turf
PROJECTED YIELD	1.0 T	
Nitrogen		
Total	0	160
Preplant		
Banded		
Phosphorus(P₂O₅)		
Broadcast	0	120
Banded		
Potassium(K₂O)		
Broadcast	0	120
Banded		
Sulfur (S)	0	0
Zinc (Zn)		
Iron (Fe)		
Copper (Cu)		
Boron (B)		
Other		

COMMENTS: Soil has a somewhat elevated salt level. If to be irrigated, test water before using if is from a well or pond. City water should be okay. The "turf" fertilizer recommendation should be applied as follows: 60-40-40 mid-April and July 1st and 40-40-40 on September 1 each year.

PREPARED BY: Neal Fehringer, Certified Professional Agronomist, C.C.A.

P.03/03
TO Hyd Helena
FROM Hydrometrics, Inc.
JUN-07-2000 11:07

2000 EAST HELENA XRF SOILS ANALYSIS

SECTOR	SAMPLE NUMBER (1)	LAB NUMBER	SAMPLE DATE	SAMPLE TIME	SAMPLE		ANALYSIS DATE	Pb (ppm)	As (ppm)	Cd (ppm)	U95 Pb	COMMENTS	Pb FIELD
					DEPTH in. (2)	TYPE (3)					VALUE (4)		REPLICATE (RPD) (5)
SITE CODE: <u>GRASSLAND SOD</u>													
BKF SOIL CONCENTRATIONS													
03	GRSLND-3	00R-04513	04/28/2000	1155	0-4	BKF	05/02/2000	57	24	< 5			

Notes: (1) P = Pit Sample; GS = Garden Sample; R = Replicate; GA = Garage Sample; TR = Tree Roots.

(2) Depth at which samples were taken. For PST samples the excavation depth was used; * = Final Excavation Depth.

(3) PRE = Pre Removal Sample; PST = Post Removal Sample; DH = Direct Haul Sample; CM = Continuous Monitoring Sample; MON = Nondisturbed sampling area; DIS = urbed sampling area; (4) Upper 95% Confidence Value for lead

(5) Relative Percent Difference; E.P.A. Quality Control Standard - less than 28%.

Site Sector	Code #	depth Inches	date Time
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4/28/00
Grassland Sed

4/28/00	GRSLND-1	(0-1" Sed)	11:45
4/28/00	GRSLND-2	(0-4")	11:50
4/28/00	GRSLND-3	(0-1")	11:55
4/28/00	GRSLND-4	(0-1")	12:00

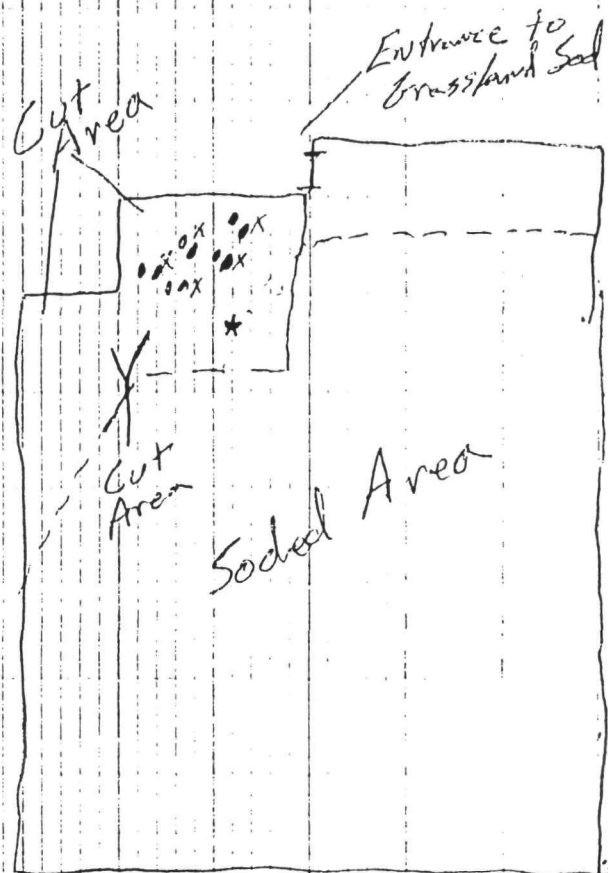
* GRSLND-4 was taken for
Soil Composition Breakdown
providing XRF analysis cores
back within allowable limits.

[Signature]

* Above Samples should
read "BKF-GRSLND"
meaning BKF fill supplier.

[Signature]

(1)



• - 0-1" Samples
x - 0-4" Samples
* - Sed Mat Sample

P.02/03

2000 EAST HELENA KRF SOILS ANALYSES

SECTOR	SAMPLE NUMBER (1)	LAB NUMBER	SAMPLE DATE	SAMPLE TIME	DEPTH in. (2)	SAMPLE TYPE (3)	ANALYSIS DATE	Pb (ppm)	As (ppm)	Cd (ppm)	U95 Pb VALUE (4) (ppm)	COMMENTS	Pb FIELD REPLICATE (RPD) (5)
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SITE CODE: BIGSKY PITRUN

BKF SOIL CONCENTRATIONS

BIGSKY PITRUN	00R-04286	05/24/2000	1235	0-6	BKF	04/26/2000	28	29	< 5				
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Notes: (1) P = Pit Sample; GS = Garden Sample; R = Replicate; GA = Garage Sample; TR = Tree Roots.

(2) Depth at which samples were taken. For PST samples the excavation depth was used; * = Final Excavation Depth.

(3) PRE = Pre Removal Sample; PST = Post Removal Sample; DH = Direct Haul Sample; CM = Continuous Monitoring Sample; NON = Nondisturbed sampling area; DIS-
urbed sampling area; (4) Upper 95% Confidence Value for lead

(5) Relative Percent Difference; E.P.A. Quality Control Standard - less than 28%.

JUN-07-2000 11:07 FROM Hydrometrics, Inc. TO Hyd Helena